## AMENDMENTS TO THE CLAIMS WITH MARKINGS TO SHOW CHANGES MADE, AND LISTING OF ALL CLAIMS WITH PROPER IDENTIFIERS

 (Withdrawn) A process for the production of dihydroquinoline compounds of the general formula la or of tetrahydroquinoline compounds of the general formula lb

in which  $R_1$  denotes hydrogen or a hydrocarbon group with 1-20 C atoms where the hydrocarbon group can optionally contain one or more heteroatoms or/and one or more substituents,

 $R_2,\,R_3,\,R_4,\,R_5,\,R_6,\,R_7$  and  $R_8$  on each occurrence and independently of one another denote hydrogen, halogen, a hydroxy, amino, sulfo, carboxy or aldehyde group or a hydrocarbon group with 1-20 C atoms where the hydrocarbon group can optionally contain one or more heteroatoms or/and one or more substituents, or the residues  $R_1$  and  $R_8$  together form a ring system and

X denotes OH, halogen, -O-R<sub>9</sub>, -S-R<sub>10</sub> or  $-NR_{11}R_{12}$  where R<sub>9</sub>, R<sub>10</sub>, R<sub>11</sub> and R<sub>12</sub> independently of one another denote hydrogen or a C1 to C20 hydrocarbon residue which can optionally contain one or more

heteroatoms or/and one or more substituents,

wherein

the corresponding compounds I'a

$$\begin{matrix} R_5 & CH_3 \\ R_7 & R_4 \\ R_7 & R_2 \end{matrix}$$

are sulfonated to form Ia (X = OH) and optionally converted by hydrogenation into Ib (X = OH).

- (Withdrawn) The process as claimed in claim 1, wherein the sulfonation is carried out by means of concentrated sulfuric acid.
- (Withdrawn) The process as claimed in claim 1, wherein the sulfonic acid group formed in the sulfonation is derivatized.
- (Withdrawn) The process as claimed in claim 3, wherein the sulfonic acid group is converted into a sulfochloride.
- (Withdrawn) The process as claimed in claim 3, wherein the sulfochloride group is reacted with a primary or secondary amine to form a sulfonamide.
- (Withdrawn) A dihydroquinoline compound of the general formula la or a tetrahydroquinoline compound of the general formula lb

$$\begin{matrix} & & & & & & & & \\ & & & & & & & \\ R_6 & & & & & & \\ R_7 & & & & & & \\ R_8 & & & & & \\ R_8 & & & & & \\ \end{matrix} \begin{matrix} & & & & & \\ & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ \end{matrix} \begin{matrix} & & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ \end{matrix} \begin{matrix} & & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ \end{matrix} \begin{matrix} & & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ \end{matrix} \begin{matrix} & & & & & \\ & & & & \\ & & & & \\ & & & & \\ \end{matrix} \begin{matrix} & & & & & \\ & & & & \\ & & & & \\ & & & & \\ \end{matrix} \begin{matrix} & & & & & \\ & & & & \\ & & & & \\ \end{matrix} \begin{matrix} & & & & & \\ & & & & \\ & & & & \\ \end{matrix} \begin{matrix} & & & & & \\ & & & & \\ & & & & \\ \end{matrix} \begin{matrix} & & & & & \\ & & & & \\ \end{matrix} \begin{matrix} & & & & & \\ & & & & \\ \end{matrix} \begin{matrix} & & & & & \\ & & & & \\ \end{matrix} \begin{matrix} & & & & & \\ & & & & \\ \end{matrix} \begin{matrix} & & & & & \\ & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & \\ & & & & \\ \end{matrix} \begin{matrix} & & & & & \\ & & & & \\ \end{matrix} \begin{matrix} & & & & & \\ & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & \\ & & & & & \\ \end{matrix} \begin{matrix} & & & & & & \\ & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & \\ & & & & & \\ \end{matrix} \begin{matrix} & & & & & & \\ & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & \\ & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & \\ & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & \\ & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & \\ & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & \\ & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & \\ & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & \\ & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & \\ & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & \\ & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & \\ & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & \\ & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & \\ & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & \\ & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & \\ & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & \\ & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & \\ & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & \\ & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & \\ & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & \\ & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & \\ & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & & \\ & & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & & \\ & & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & & \\ & & & & & & \\ \end{matrix} \end{matrix} \end{matrix} \begin{matrix} & & & & & & & \\ & & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & & \\ \end{matrix} \end{matrix} \end{matrix} \begin{matrix} & & & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & & \\ \end{matrix} \end{matrix} \end{matrix} \begin{matrix} & & & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & & \\ \end{matrix} \end{matrix} \end{matrix} \begin{matrix} & & & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & & \\ \end{matrix} \end{matrix} \end{matrix} \begin{matrix} & & & & & & & \\ \end{matrix} \end{matrix} \begin{matrix} & & & & & & & \\ \end{matrix} \end{matrix} \end{matrix} \begin{matrix} & & & & & & & & \\ \end{matrix}$$

in which  $R_1$  denotes hydrogen or a hydrocarbon group with 1-20 C atoms where the hydrocarbon group can optionally contain one or more heteroatoms or/and one or more substituents.

 $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$ ,  $R_6$ ,  $R_7$  and  $R_8$  on each occurrence and independently of one another denote hydrogen, halogen, a hydroxy, amino, sulfo, carboxy or aldehyde group or a hydrocarbon group with 1-20 C atoms where the hydrocarbon group can optionally contain one or more heteroatoms or/and one or more substituents, or the residues  $R_1$  and  $R_8$  together form a ring system and

X denotes OH, halogen, -O-R<sub>9</sub>, -S-R<sub>10</sub> or -NR<sub>11</sub>R<sub>12</sub> where R<sub>9</sub>, R<sub>10</sub>, R<sub>11</sub> and R<sub>12</sub> each independently of one another denote hydrogen or a C1 to C20 hydrocarbon residue which can optionally contain one or more heteroatoms or/and one or more substituents, in particular -SO<sub>3</sub>H, -PO<sub>3</sub>H<sub>2</sub> and -COOH.

 (Withdrawn) The compound as claimed in claim 6, wherein R<sub>1</sub> represents an aryl or alkyl residue and in particular a C5 to C15 aryl or a C1 to C20 alkyl residue, R<sub>2</sub> and R<sub>3</sub> are methyl and R<sub>4</sub> denotes hydrogen.

- (Withdrawn) The compound as claimed in claim 6, wherein R<sub>7</sub> represents a hydroxy or methoxy residue.
- (Withdrawn) The compound as claimed in claim 6 wherein R<sub>6</sub> represents a nitroso group.
- (Withdrawn) The compound as claimed in claim 6 wherein R<sub>6</sub> represents a formyl or a hydroxymethyl group.
- (Withdrawn) The compound as claimed in claim 6, wherein X denotes halogen and in particular Cl.
- (Withdrawn) The compound as claimed in claim 6, wherein-X represents the residue –NR<sub>11</sub>R<sub>12</sub>
- (Withdrawn) A process for the production of dyes of the general formulae
   If to VII containing –SO<sub>2</sub>X

in which  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$  and  $R_8$  are defined as in claims 1 to 12, R on each occurrence can be the same or different and is defined as for  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$  and  $R_8$  and R' on each occurrence and independently of one another denotes hydrogen or a hydrocarbon group with 1-20 C atoms where the hydrocarbon group can optionally contain one or more heteroatoms or/and one or more substituents, or the residues R and R' together form a ring system which can contain one or more double bonds.

 $R_{13}$  on each occurrence and independently of one another denotes hydrogen or a hydrocarbon group with 1-20 C atoms where the hydrocarbon group can optionally contain one or more heteroatoms or/and one or more substituents, where  $R_{13}$  in particular represents hydrogen, aryl, carboxyphenyl, alkyl, perfluoroalkyl, cycloalkyl, pyridyl or carboxypyridyl.

X denotes OH, halogen,  $-O-R_9$ ,  $-S-R_{10}$  or  $-NR_{11}R_{12}$  where  $R_9$ ,  $R_{10}$ ,  $R_{11}$  and  $R_{12}$  each independently of one another denote hydrogen or a C1 to C20 hydrocarbon residue which can optionally contain one or more heteroatoms or one or more substituents, and

Y in formula III denotes O, S or Se and Y in formula VI denotes O, S or  $C(R)_2$ , wherein

corresponding compounds of formulae II' to VII'

are sulfonated with the proviso that for compounds of formula III in which Y = O and for compounds of formula IV, X does not denote OH.

- 14. (Withdrawn) A method for producing polycyclic dyes comprising using a compound as claimed in claim 6 or a compound obtained by the process as claimed in claim 1.
- (Withdrawn) The method as claimed in claim 14 wherein the polycyclic dyes are of formulae II to VII.
- 16. (Withdrawn) A process for the production of polycyclic dyes, wherein compounds which have a dihydroquinoline end group with a 4-methyl group are sulfonated and optionally hydrogenated to form a tetrahydroquinoline with the proviso that the polycyclic dye is not a compound of formula III in which Y = O and X = OH or of formula IV in which X = OH.
- (Withdrawn) The polycyclic dye produced according to the process as claimed in claim 13.
- 18. (Currently amended) A polycyclic dye of the general formulae II to VII

## in which

R' denotes hydrogen or a hydrocarbon group with 1-20 C atoms where the hydrocarbon group can optionally contain one or more heteroatoms or/and one or more substituents,

R on each occurrence and independently of one another denotes hydrogen, halogen, a hydroxy, amino, sulfo, carboxy or aldehyde group or a hydrocarbon group with 1-20 C atoms where the hydrocarbon group can optionally contain one or more heteroatoms or/and one or more substituents, or the residues R' and R together form a ring system which can contain one or more multiple bonds,

in which R₁ denotes hydrogen or a hydrocarbon group with 1-20 C atoms

where the hydrocarbon group can optionally contain one or more heteroatoms or/and one or more substituents,  $R_2,\ R_3,\ R_4,\ R_5,\ and\ R_8$  on each occurrence and independently of one another denote hydrogen, halogen, a hydroxy, amino, sulfo, carboxy or aldehyde group or a hydrocarbon group with 1-20 C atoms where the hydrocarbon group can optionally contain one or more heteroatoms or/and one or more substituents, or the residues  $R_1$  and  $R_8$  together form a ring system and  $R_{13}$  on each occurrence and independently of one another denotes hydrogen or a hydrocarbon group with 1-20 C atoms where the hydrocarbon group can optionally contain one or more heteroatoms or/and one or more substituents, where  $R_{13}$  in particular represents hydrogen, aryl, carboxyphenyl, alkyl, perfluoroalkyl, cycloalkyl, pyridyl or carboxypyridyl,

Y in formula III denotes O, S or Se and Y in formula VI denotes O, S or  $C(R)_2$ ,

with the proviso that the dye is not a compound of the general formula III in which Y = O and X = OH or of the general formula IV in which X = OH.

- (Previously presented) The polycyclic dye as claimed in claim 18 wherein X denotes halogen.
- (Previously presented) The polycyclic dye as claimed in claim 18, wherein X represents the residue –NR<sub>11</sub>R<sub>12</sub>.
- (Previously presented) The polycyclic dye as claimed in claim 20, wherein
  at least one of -R<sub>11</sub> and R<sub>12</sub> represents an alkyl or aryl residue substituted
  with -COOH.

- 22. (Withdrawn) In a method for the detection of an analyte in a sample, the improvement which comprises using a labeled receptor for the analyte, wherein the label is a compound of claim 18.
- (Withdrawn) The method as claimed in claim 22, wherein the analyte is a
  peptide or nucleotide.
- 24. (Withdrawn) The method as claimed in claim 22, wherein the dye is binding to an NH<sub>b</sub> or SH group of the analyte.
- (Withdrawn) The method of claim 22, wherein the label is bound by coupling to an amino group of the analyte.
- (Withdrawn) The method of claim 22, wherein the label is activated as an NHS ester is bound by coupling to an amino group of the analyte.
- (Withdrawn) The method of claim 22, wherein the label is coupling to another dye.
- (Withdrawn) The method of claim 27, wherein the label is coupled via an amino group of the other dye to thus form a FRET pair.
- (Previously presented) The polycyclic dye as claimed in claim 19, wherein X denotes chlorine.